

Work Order ID 80291***80291***

Page 1

February-16-12 10:28:41 AM

Item ID: D3391-021 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Fwd Tube Assembly
Start Date: 16/02/2012 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 01/03/2012 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: M.L.J Date: 12/02/16 Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3391	I								

100 0.00
100 Skidtubes
Skidtubes Memo 0.00
Skidtubes Cut extrusion to 46.52 +0.010 -0.020

DC 12/03/01

110 0.00
110 BENDING MACHINE - SKIDTUBES
CNC Bend I Memo 0.00
CNC Delta 100 Bender Bend as per Dwg D3391 Using Bend Prog 3391021

DP 12-3-1

120 0.00
120 QC5: Inspect part completeness to step on W/O
QC Memo 0.00
Quality Control

6.875BE12/03/01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Item ID: D3391-021

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N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fwd Tube Assembly

Start Date: 16/02/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 01/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1-Machine as per Folio FA590 Rev. <u>44</u> & Dwg D3391 Rev. <u>#1</u> Identify as D3391-1 2-Deburr								
140		0.00							
140	QC2- Inspect parts off machine FAI/FAIB								
QC	Memo	0.00							
Quality Control									
150		0.00							
150	CONVENTIONAL MILLING MACHINE								
Mill Conv	Memo	0.00							
Conventional Milling Machine	Drill X1 Aft cap as per Dwg D3391 .1875" dia								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NS1

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NS2

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC2- Inspect parts off machine FAI/FAIB

0.00

*9/10 12-3-5****160***

QC

Memo

0.00

Quality Control

170

QC8- Inspect parts - second check

0.00

*5/12 3/5****170***

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
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Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

180

Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

2-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5- open float bag holes 0.328" and counter sink as per dwg D3391

6-Deburr & Scribe Batch number Inside aft end.

7-Transfer drill D3391-021 with D3391-023

NO WEARPLATE HOLES ARE TRANSFER DRILLED

190

190

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8/2/06

1 Ø CF 12.36

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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200	Chemical Conversion Coat per QSI005 4.1	0.00							
200									
HandFinish	Memo	0.00							
Hand Finishing									

① H6/12 12-3-7

210	QC3- Inspect Part Finish	0.00							
210									
QC	Memo	0.00							
Quality Control									

① SAD 12-03-07

220	Skidtubes	0.00							
220									
Skidtubes	Memo	0.00							
Skidtubes									

① SAD 12-03-07

1-instal spacers as per dwg D3391
 A/R Magnabond 6398 batch: m120660
 exp. date: 13-01-30
 cure time 12hrs. as per QSI015
 2- grind crossbolt flush
 3-back drill crossbolt if necessary

W/O:		WORK ORDER CHANGES					
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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230

QC5- Inspect part completeness to step on W/O

0.00

230

QC

Memo

0.00

S. 1/13/09

Quality Control

235

Pressure Wash per QSI005 4.3

0.00

235

HandFinish

Memo

0.00

Hand Finishing

AND REALODINE AS PER PAR09-043

1X Ø M. 12/03/09

240

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

240

Powdercoat

Memo

0.00

Powder Coating

START TIME: 8h45
OVEN TEMPERATURE: 320°F
FINISH TIME: 9h15

1 Q (SP) 12/03/12

M120222

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Date: 16/02/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 01/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

QC3- Inspect Part Finish

0.00

250

QC

Memo

0.00

Quality Control

1 0 12/03/14

255

Skidtubes

0.00

255

Skidtubes

Memo

0.00

Skidtubes

✓ **** install D3591-1 spacer as per DSI9364 and wearplate as per DWG ****

1 0 12/03/14

257

QC5- Inspect part completeness to step on W/O

0.00

257

QC

Memo

0.00

Quality Control

8/7/15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
260	Identify as per dwg & Stock Location: <u>wlo</u>	0.00	0412-742-043 / B81088			1	4	11/03/12	
260		0.00							
Packaging	Memo								
Packaging									
280	QC21- Final Inspection - Work Order Release	0.00							
280		0.00							
QC	Memo								
Quality Control									

12/3/15

1/12-03-15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries

Picklist Print

*February-16-12 10:28:44 AM

Page 1

Work Order ID: 80291

80291

Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 16/02/2012

Required Date: 01/03/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP A05.09.13New issue KJ/JLM
 IPP B06.02.10Dwg rev.D ecn 773 EC
 IPP C06.05.02Added inspections EC
 IPP D 07.03.13 rev F dwg EC
 IPP E 07.11.07 revG dwg ecn1053P EC verified by: DD
 IPP Rev:f ECN 1056 07-11-12 DD verified by: EC
 IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC
 IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC
 IPP Rev I 09.02.02 added hardware EC verified by: DD IPP Rev:J
 11.11.14 AS PER REV.I DD verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4095-051		Manufactured	No			255	Each	15.0000	1	1			
D4095-051													
Wearpad Assembly													
** 11 12/03/14													

Location	Loc Qty	Loc Code
----------	---------	----------

FP001	15	
78821	15	X1

D6013-047		Manufactured	No			100	Each	127.0000	1	1			
D6013-047													
Skidtube Material													
** DC 12/03/14													

Location	Loc Qty	Loc Code
----------	---------	----------

LG	127	!
72505	127	

D3670-4-200		Manufactured	No			220	Each	99.0000	4	4			
D3670-4-200													
SPACER													
** SAD 12-03-07													

Location	Loc Qty	Loc Code
----------	---------	----------

LG001	99	
72851	7	
77500	32	
78606	60	4

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Work Order ID: 80291

80291

Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 16/02/2012

Required Date: 01/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3401-041

Manufactured No

255 Each

7.0000

1

1

D3401-041

Tow Cap Assembly

**

B380611 (x1) JH 12/03/14

Location

Loc Qty

Loc Code

FP002

7

76211

7

AN960C10L

NAS1149C0332
R

Purchased

No

255

Each

0.0000

10

10

*AN960C10I *

washer

AN3C4A

Purchased

No

255

Each

3,439.000

10

10

**

M120648 (x10) JH 12/03/14

AN3C4A

BOLT

**

M120930 (x10) JH 11/03/14

Location

Loc Qty

Loc Code

ST350

3439

117313

2

117688

5

117872

10

118112

16

118451

2

119749

10

120187

2000

120423

394

120521

1000

W/O:		WORK ORDER CHANGES					
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Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 16/02/2012

Required Date: 01/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured

No

255

Each

924.0000

4

4

D3672-1

Phenolic Washer

**

yl 12/03/14

Location

Loc Qty

Loc Code

FP001

288

66821

288

ST060

636

72229

136

76277

500

yl

AEIS-1032-225

Purchased

No

255

Each

0.0000

10

10

AFI S-1032-225

INSERT

ASH-1032-225

**

1120410 (x10) yl 12/03/14

W/O:		WORK ORDER CHANGES					
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Dart Aerospace Ltd

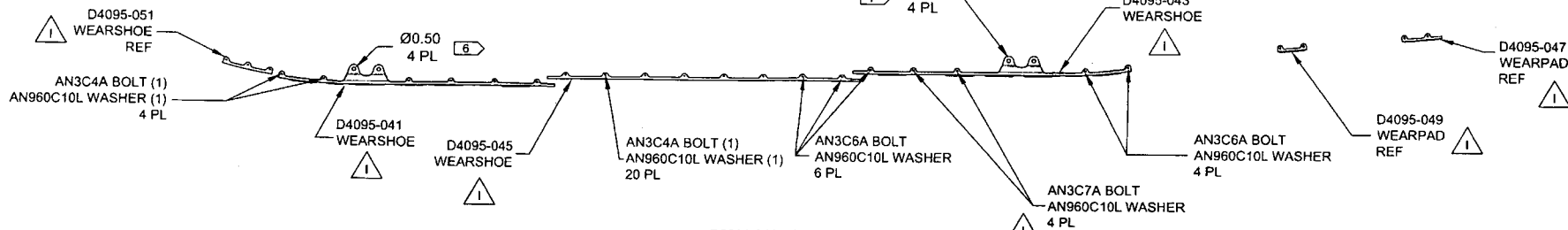
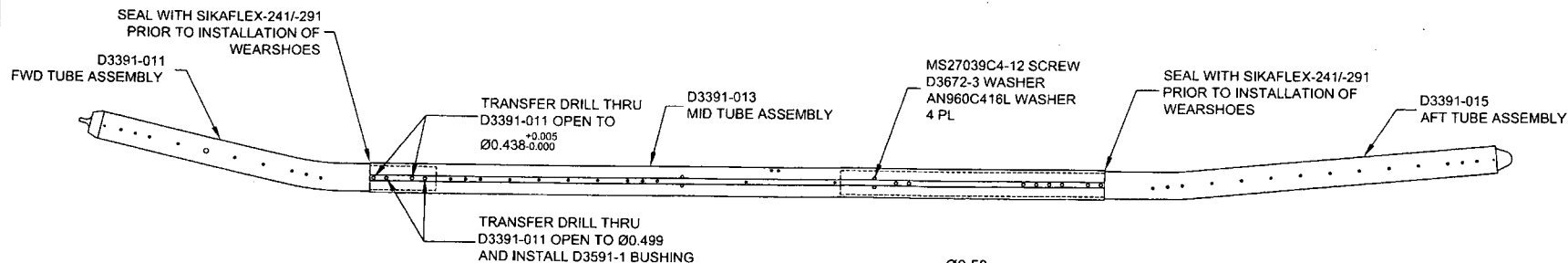
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D3391-041 ASSEMBLY

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D3391-041	Float SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
2	D3581-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARPAD
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL $\varnothing 0.297$ SIZE HOLES
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.
- FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL $\varnothing 0.50$ HOLES FROM SADDLE TO D4095-041
- FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL $\varnothing 0.50$ HOLES FROM SADDLE TO D4095-043

RELEASED
2011-11-04
ECN# 11-662

I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 $\varnothing 0.438$ DIM WAS 4 PL. ADDED $\varnothing 0.499$ DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 $\varnothing 0.438$ DIM WAS 4 PL. ADDED $\varnothing 0.499$ DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -0117-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
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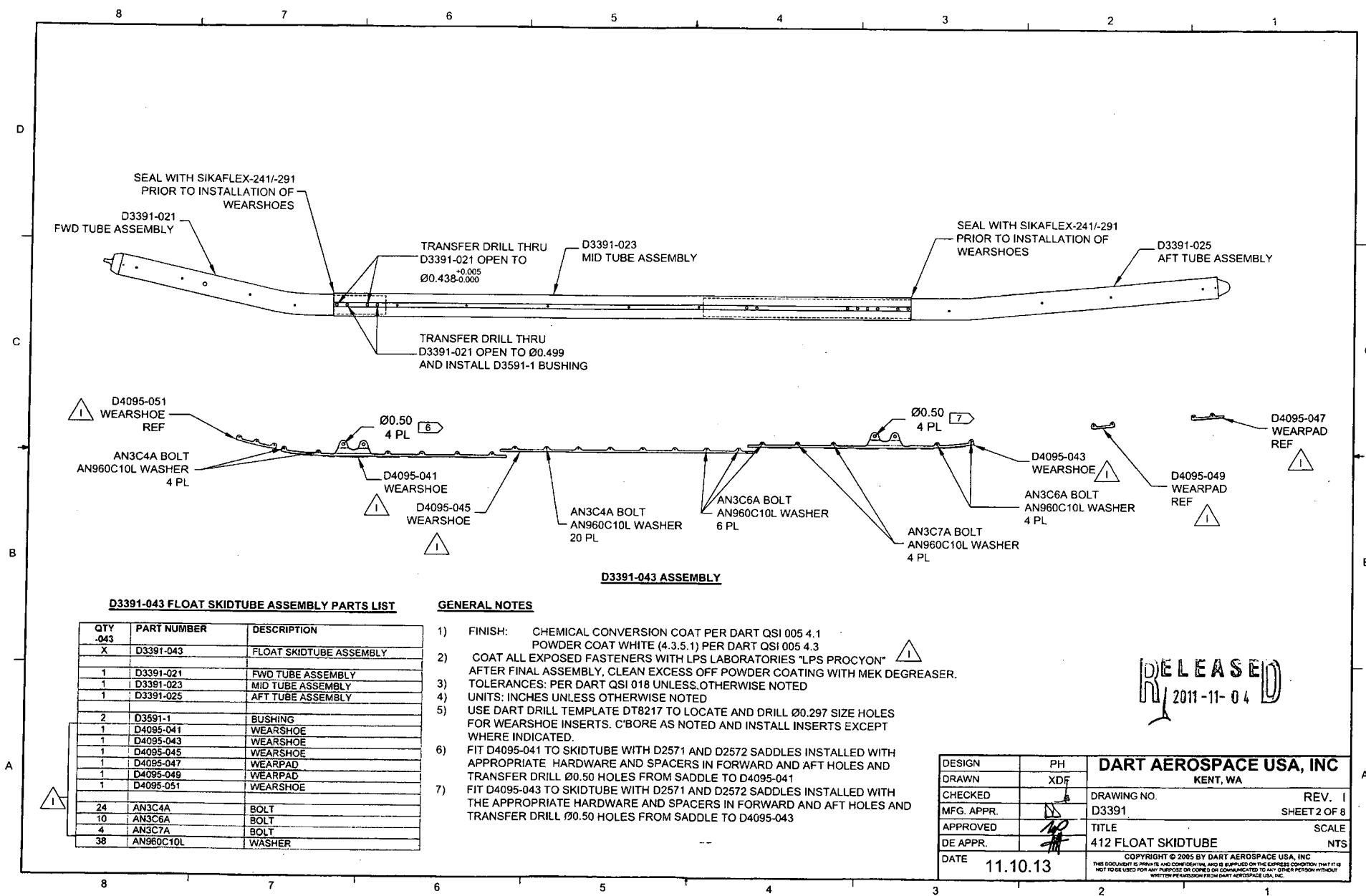
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Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____
Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

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D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARPAD
1	D4095-049	WEARPAD
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
- 3) AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 7) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 8) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

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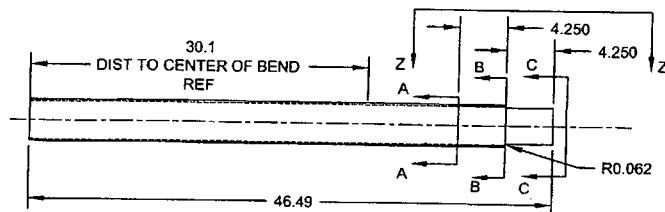
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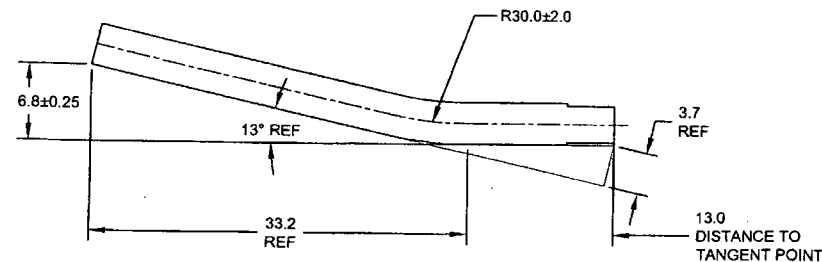
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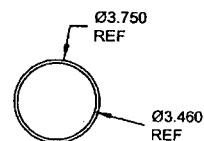
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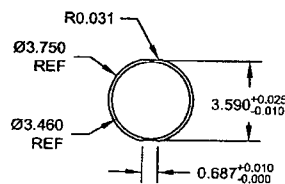
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



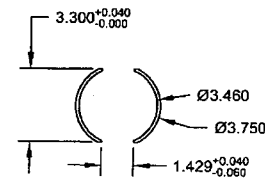
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



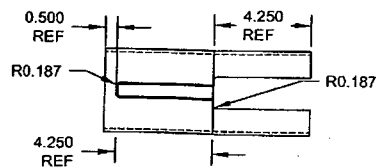
SECTION A-A
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SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

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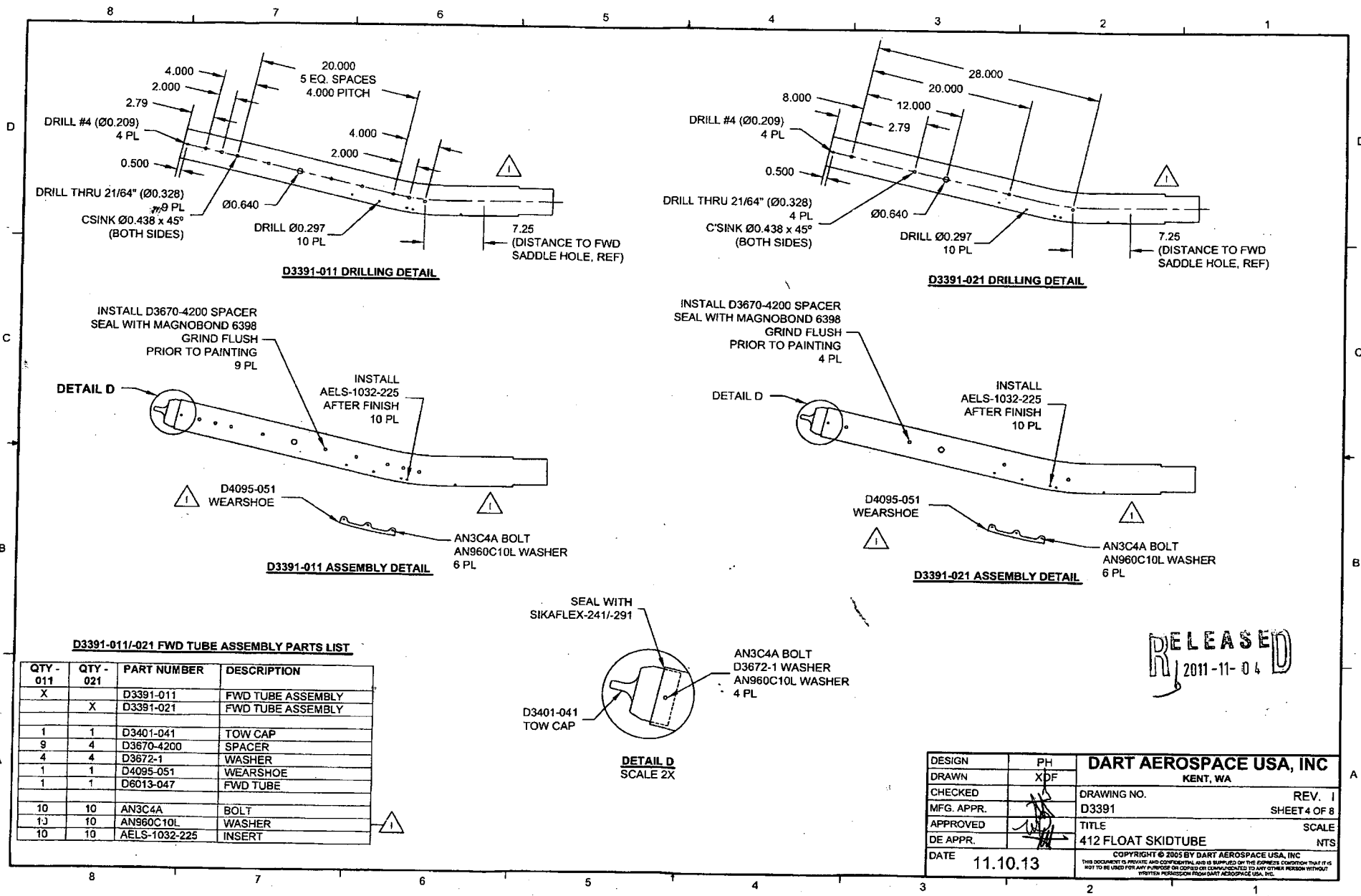
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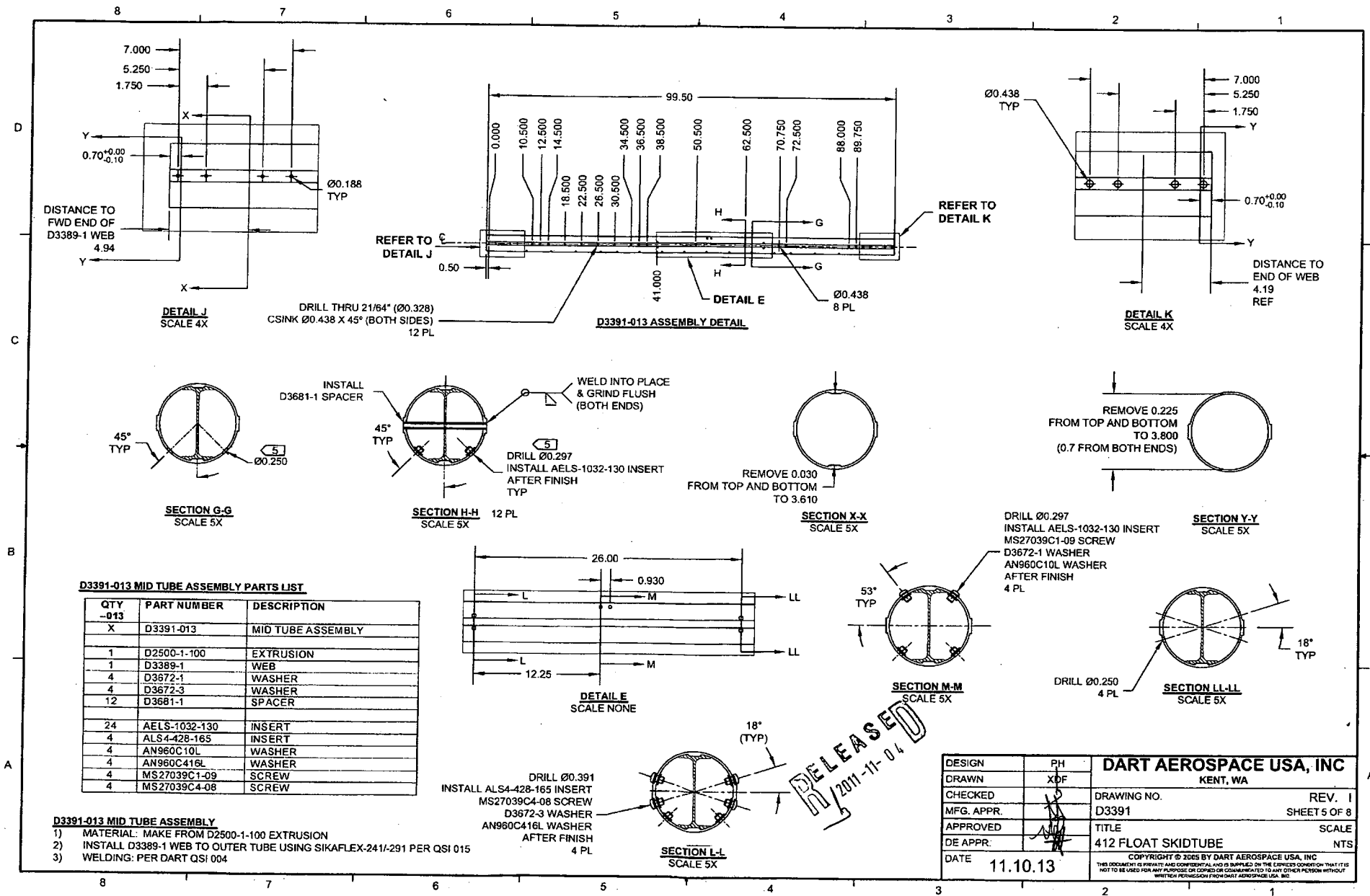
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



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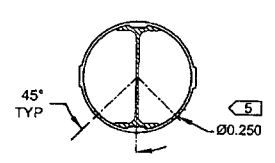
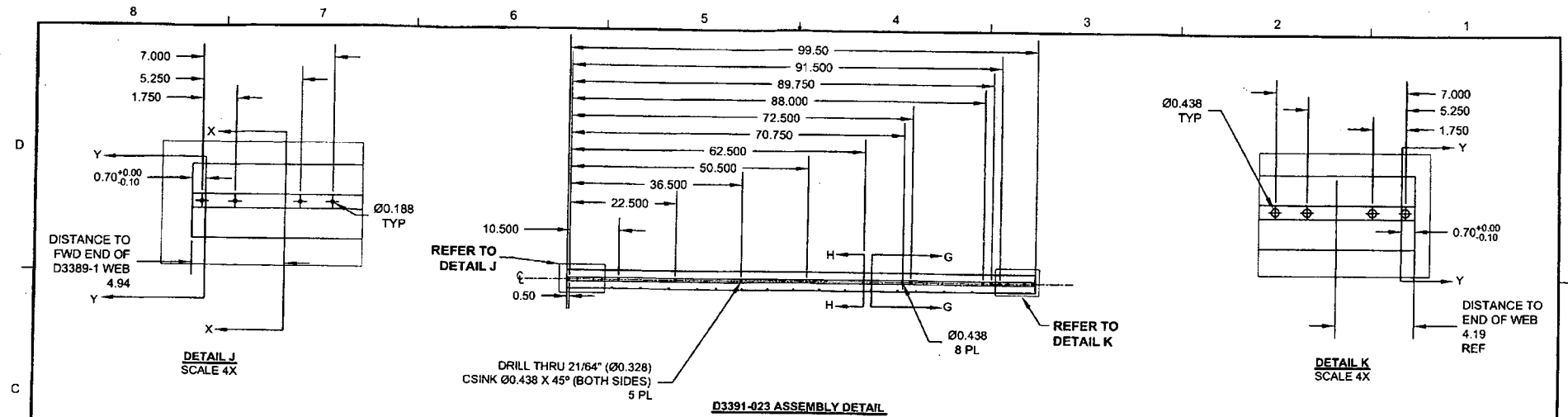
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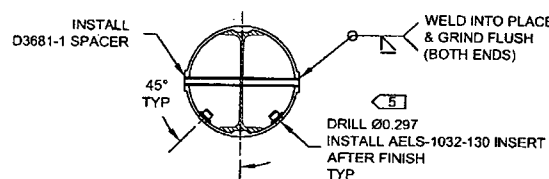
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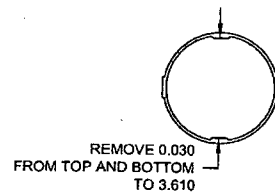
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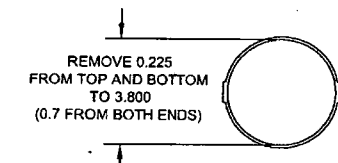
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- 3) WELDING: PER DART QSI 004

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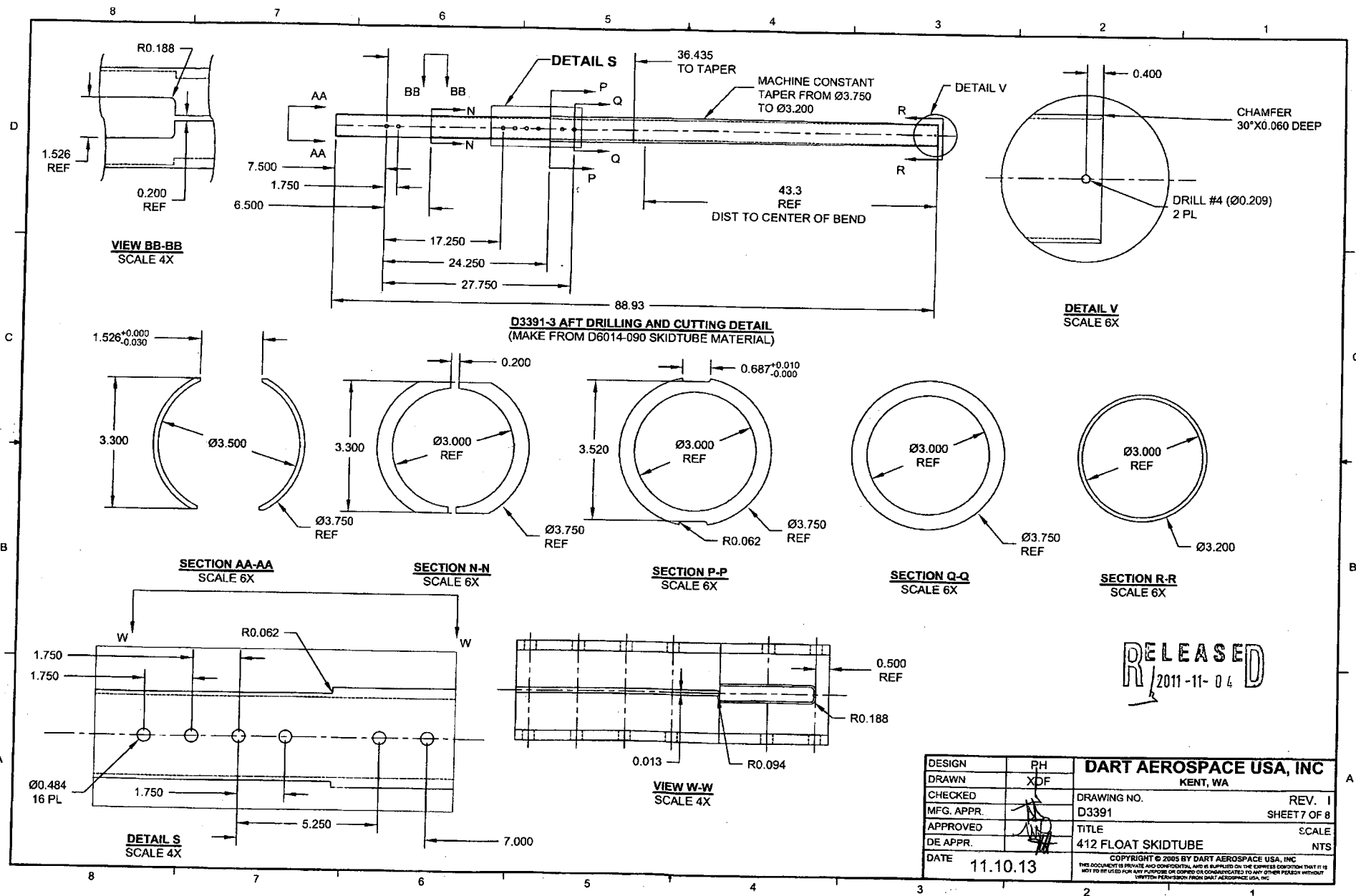
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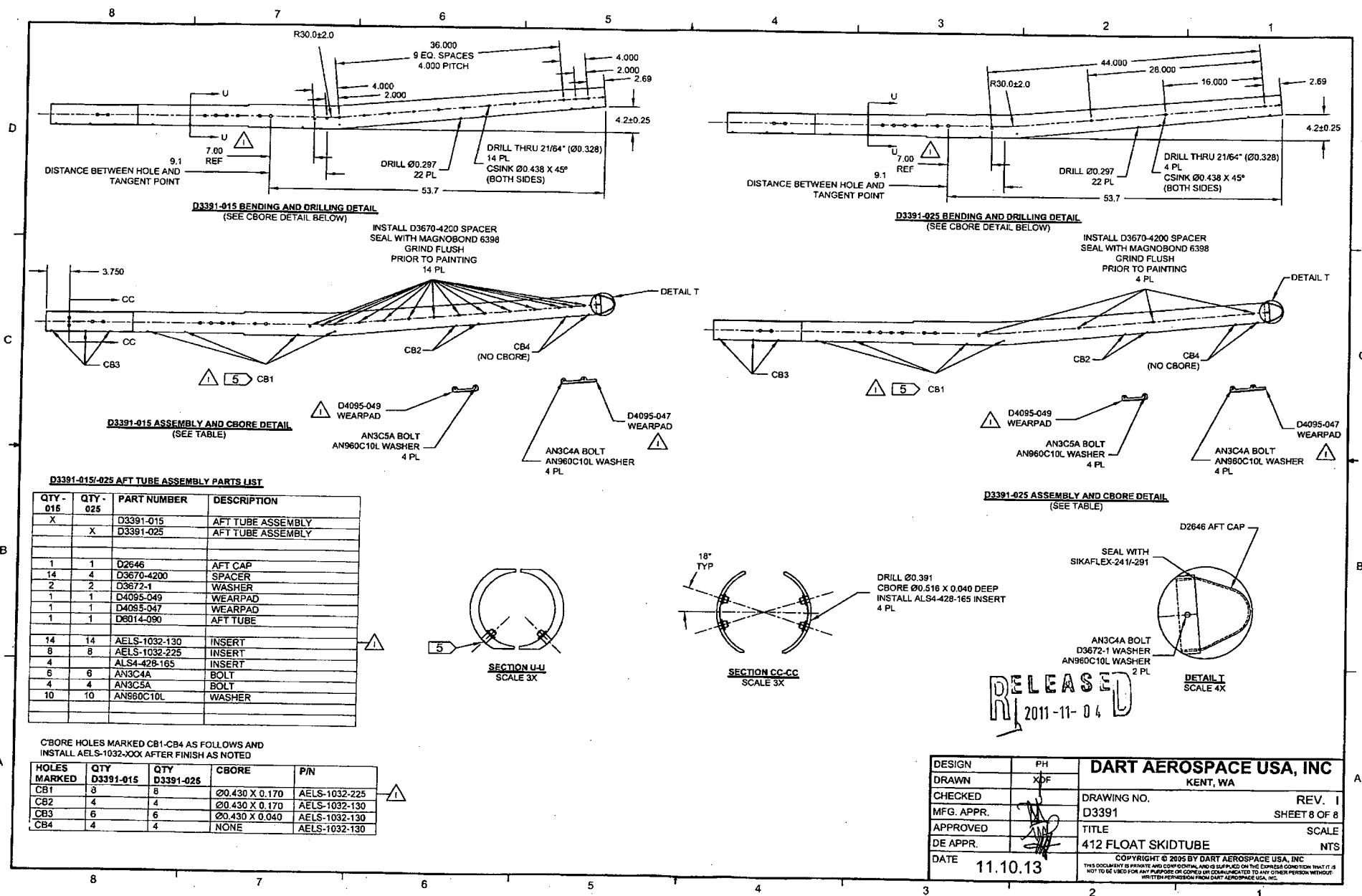
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